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TITLE : CERMET TIP FOR CUTTING WITH REACTIVE SURFACE LAYER AND ITS
MANUFACTURE

ABSTRACT : PURPOSE: To inexpensively manufacture a cermet tip having high-speed cutting performance by heat treating a cermet tip body obtd. by sintering in vacuum and composed of a binding phase and a hard phase each having specified composition in an atmosphere contg. gaseous CO, etc.

CONSTITUTION: A green compact having a prescribed blended composition is sintered in a high vacuum atmosphere under $\leq 10^{-1}$ Torr pressure to obtain a cermet tip body composed of, by volume, 10~35% of ≥ 1 kind of Fe group metal mixed optionally with ≥ 1 kind of metal selected from the Cr group metals and Al as a binding phase forming component, 5~40% of ≥ 1 kind of component selected from the carbides, nitrides and oxides of the IVa, Va and VIa group metals in the periodic table and solid solns. each consisting of ≥ 2 kinds of such compounds as a hard phase forming component, and the balance TiC and TiN[TiN/(TiC+TiN)=0.2~0.6]as hard phase forming components with inevitable impurities. The tip body is heat treated to form a reactive layer having 0.5~10.0 μ m average thickness on the surface.

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